

25. (New) The product of claim 5, wherein:
the element is a first element and the movie composition includes multiple elements; and
the elements of the movie composition are nodes in a compositing tree, a parent node in
the compositing tree being affected by changes to a child node in the compositing tree, the
product further comprising instructions to:

A2
when displaying the frame, identify one or more elements that are child nodes of the first
element, the instructions to compare including instructions to compare the edit sequence position
associated with the cached frame with the edit sequence information associated with the one or
more elements identified as child nodes of the first element.

26. (New) The product of claim 5, wherein:
the element is a first element and the movie composition includes multiple elements; and
the first element collaterally depends on one or more other elements in the movie
composition, an element that is collaterally dependent on another element being affected by the
other element, the product further comprising instructions to:

when displaying the frame, identify one or more elements on which the first element
collaterally depends, the instructions to compare includes instructions to compare the edit
sequence position associated with the cached frame to the edit sequence information associated
with the one or more identified elements.

27. (New) The product of claim 5, further comprising instructions to:
validate the cached frame when the edit sequence position associated with the cached
frame specifies an edit that is as or more recent than an edit specified by the current edit
sequence position specified recent as by the edit sequence information for the interval of the
element's timeline.

28. (New) A method for displaying a frame of a movie composition, the method comprising:

associating edit sequence information with an element of the movie composition, the edit sequence information specifying, for an interval of the element's timeline, an edit sequence position representing the position in a sequence of edits made to the movie composition of a most recent edit made that affects the element during the interval, the interval being a portion of the timeline;

A2 ✓
when caching a frame, associating with the cached frame an edit sequence position that represents a state of editing of the movie composition; and

when displaying the frame, comparing the edit sequence position associated with the cached frame with edit sequence information associated with the element.

29. (New) The method of claim 28, wherein:

the edit sequence position that represents a state of editing of the movie composition includes the edit sequence position of a most recent edit made to the movie composition.

30. (New) The method of claim 28, further comprising:

in response to an edit made to the movie composition, updating the edit sequence information.

31. (New) The method of claim 30, wherein:

the instructions to compare include instructions to compare the sequence position associated with the cached frame with the updated sequence information.

32. (New) The method of claim 28, further comprising:

for an edit made to the movie composition, identifying an interval of the element's corresponding timeline that may be affected by the edit.

33. (New) The method of claim 32, wherein:
the identified interval is the maximum range during which the edit may affect the
element.

34. (New) The method of claim 28, further comprising:
for an edit made, identifying an interval of the element's corresponding timeline that is
affected by the edit.

A2 ✓
35. (New) The method of claim 28, wherein comparing includes:
identifying the edit sequence position of the most recent edit from the sequence
information associated with the element; and
comparing the edit sequence position associated with the cached frame with the identified
edit sequence position.

36. (New) The method of claim 28, wherein the sequence information associated
with the element is placed into groups, the method further comprising:
identifying the most recent edit sequence information for each group.

37. (New) The method of claim 28, wherein:
the edit sequence information includes an interval list, the interval list specifying, for
each interval of the element's timeline, the edit sequence position representing a position in a
sequence of edits made to the composition of a most recent edit made that affects the element
during the interval.

38. (New) The method of claim 37, wherein:
each interval of the interval list includes a start time; and
except for the last listed interval of the interval list, each interval of the interval list is
delimited by its start time and the start time of the subsequent interval.

39. (New) The method of claim 38, wherein:
the movie composition has a master timeline to which the element's timeline maps, the master time line including a start time and a stop time;
the first interval listed in the element's interval list has a start time that precedes the start time of the composition's master timeline; and
the last interval listed in the element's interval list extends beyond the stop time of the composition's master timeline.

A2
40. (New) The method of claim 38, further comprising:
for an edit, determining the start time and duration of an interval when the edit may affect the element, and define new intervals in the interval list if the interval list does not include an interval having the start time and duration of the determined interval, the new intervals being defined based on the start time and the duration of the determined interval.

41. (New) The method of claim 40, wherein:
defining new intervals include defining new intervals such that the intervals in the interval list do not overlap.

42. (New) The method of claim 40, further comprising:
associating the edit sequence position of the edit with the determined interval.

43. (New) The method of claim 38, wherein:
the edit sequence position is represented by an integer.

44. (New) The method of claim 43, wherein:
the interval list of an element includes a first array and a second array that is parallel to the first array, the first array including start times and the second array including integers representing edit sequence positions.

45. (New) The method of claim 37, further comprising:
when displaying the frame, identifying the interval of the interval list that affects the frame and compare the edit sequence position associated with the cached frame with the edit sequence position listed in the interval list for the identified interval.

46. (New) The method of claim 37, further comprising:
maintaining a first interval list for a first type of type of edits and a second interval list for
A2 a second type of edits.

47. (New) The method of claim 46, further comprising:
in response to an edit to the composition, identifying one or more interval lists to update;
and
update the identified interval lists.

48. (New) The method of claim 28, wherein:
the element is a first element and the movie composition includes multiple elements; and
the elements of the movie composition are nodes in a compositing tree, a parent node in the compositing tree being affected by changes to a child node in the compositing tree, the method further comprising:

when displaying the frame, identifying one or more elements that are child nodes of the first element, the step of comparing including comparing the edit sequence position associated with the cached frame with the edit sequence information associated with the one or more elements identified as child nodes of the first element.

49. (New) The method of claim 28, wherein:
the element is a first element and the movie composition includes multiple elements; and
the first element collaterally depends and one or more other elements in the movie composition, an element that is collaterally dependent on another element being affected by the other element, the method further comprising:

when displaying the frame, identifying one or more elements on which the first element

collaterally depends, the step of comparing includes comparing the edit sequence position associated with the cached frame to the edit sequence information associated with the one or more identified elements.

A2 50. (New) The method of claim 28, further comprising:
validating the cached frame when the edit sequence position associated with the cached frame specifies an edit that is as or more recent than an edit specified by the current edit sequence position specified recent as by the edit sequence information for the interval of the element's timeline.